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(54) Title: TOURNAMENT GAME SYSTEM AND METHOD
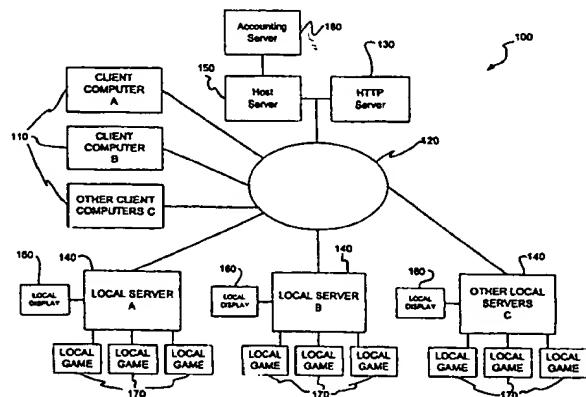
(57) Abstract

A tournament game system and method are disclosed by which players may compete in international, regional, national, and local
electronic game tournaments over a network (120), such as the Internet. A host server (150) coupled via the network (120) to multiple local
servers (140) controls the various tournaments. The local servers (140) are each connected to a set of local games (170) at each locale. The
local games (170) transmit game data to the local servers (140), which, in turn, periodically transmit the game data to the host server (140).
The host server updates ranking information and transmits updated ranking information, as well as other content, to the local servers (140).
Each local server (140) then displays the information and content received from the host computer on a local display (160) coupled thereto.
An HTTP server (130) is also coupled to the host server (150) for publishing tournament information via web pages on the Internet and
by sending e–mail messages to players. An accounting server (180) is coupled to the host server for preparing invoices and other related
accounting documentation according to the information received by the host server (150) from the various local servers (140).

TOURNAMENT GAME SYSTEM AND METHOD

By Michael A. Cooper-Hart, Howell A. Ivy, and David Foley

CROSS-REFERENCE TO RELATED APPLICATION

This application relates to and claims the priority of U.S. Provisional Patent Application No. 60/108,785, by Michael A. Cooper-Hart, Howell A. Ivy, and David Foley and entitled "Tournament Game System and Method" filed November 17, 1998, the disclosure of which is hereby incorporated by this reference.

BACKGROUND OF THE INVENTION

1.   Field of the Invention

The present invention relates generally to games of skill and, more particularly to a system and method by which players of individual electronic games, such as video games and the like, can play a tournament.

2.   Description of the Background Art

In a tournament, various participants compete individually or in teams. Conventional tournaments, however, suffer from several limitations. For example, for many types of tournaments, the participants must travel considerable distance to get to the playing site and may require expensive overnight accommodations where the tournament lasts more than one day. In addition, conventional tournaments typically require fixed starting times, which force the various tournament participants to adhere to the same schedule. Moreover, some tournaments require use of expensive physical facilities, such as auditoriums, gymnasiums and the like. Such tournament logistics tend to increase the expense and inconvenience for the tournament participants and promoters.

Electronic tournaments, in contrast, may allow participants to compete without the necessity of travel, strict schedules, or the obtaining of large physical facilities. Because travel and large physical facilities are not required, electronic tournaments may alleviate or overcome many of the disadvantages of conventional tournament play.

Consequently, a need exists to provide an electronic tournament in which remotely situated players can participate in local, regional, national, or international

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tournaments. Another need exists to provide electronic tournament participants with updates regarding upcoming tournaments, and their current ranking, which may change over time. A yet additional need exists for a electronic tournament system in which push content, such as updated ranking information and advertising information, may be

5   forwarded to and displayed at the various game locations. Still another need exists to provide an electronic tournament system and method by which the tournament aspects of the game, such as player rankings and tournament information distribution, are performed largely by other components so that electronic game resources, such as memory and processor resources, can be devoted to running the game.

SUMMARY OF THE INVENTION

The present invention overcomes or substantially alleviates prior problems associated with the provision of electronic tournaments. In general, the present invention provides a national host computer coupled over a network, such as the

5   Internet, to multiple local game servers, multiple client computers, and a World Wide Web (www) or hypertext transfer protocol (http) server. The local game servers are located at various remote sites. Each local game server is connected to multiple electronic games and to a local display.

In this configuration, at the completion of each game at an electronic game,

10 the electronic game transmits a game data packet to the local game server. The game data packet may include information such as: player identification information, player score information, the time and date of the game, the locale of the game, the electronic game serial number, the type of game played, and the like. The player identification information may further include the player's name or initials, the

15 player's password, an image of the player and the like. Upon receipt of the game data packet, the local game server determines whether the player's score qualifies the player to be ranked in international, national, regional, local or other rankings. If the player's score qualifies the player to be ranked in the local rankings, the local server ranks the player and transmits the player score and player identification information to

20 the local display.

Periodically, each local game server transmits at least a portion of the game data packet information it has received from the various electronic games connected thereto to the host server over a network. Preferably, the local game server transmits at least a portion of the game data packet information to the host server over the

25 Internet via a local (toll-free) telephone call to a local ISP (Internet Service Provider). The host server then updates the various rankings and transmits updated ranking information to the various local game servers. In addition, the host server may transmit additional push content such as video and audio advertising and the like.

The local game servers, upon receipt of the updated ranking information and

30 other push content from the host server display the updated ranking information and other push content on the local display coupled thereto.

Additionally, valuable bookkeeping information is contained in the various game data packets transmitted from the electronic games to the local servers. This

bookkeeping information may include the number of games played during a particular time period, the times of the various games played, the locales in which the various games are played and the like. Such bookkeeping information can be useful in determining the profitability of the various games and in analyzing the financial

5   aspects of game play generally. This bookkeeping, or accounting, information is periodically transmitted from the local servers over the network to the host computer, where the information is compiled by an accounting server.

The www or http server of the present invention permits players to access ranking and other tournament information from remote client computers connected to

10   the network. That is, according to the present invention, a player may open a web page that resides on the www server to access tournament information from a client computer that may be conveniently situated at the player's residence or place of employment. In addition, www server permits players to receive e-mail updates regarding changes in their individual rankings, upcoming tournaments, and the like.

15   In this manner, players are not required to travel to a local display to obtain updated tournament information. Instead, they may obtain such information from a client computer by e-mail or by opening a web page residing on the www server. Tournament information on the web page is periodically updated by the host server, which is connected thereto. The www server also maintains a "chat room" for

20   tournament participants to access from client computers. The chat room permits the tournament participants to interact over the network from remote client computers to discuss past, present, or future tournaments.

To permit a player's picture to be displayed in connection with the player's ranking, a camera, such as a CCD camera, is connected to the local game server. The

25   CCD camera takes the player's picture and stores the same, at least on a temporary basis, at the local server. Then, the player images are transmitted to the host server along with other player information during the periodic host server updates. In this manner, the player's image may be displayed in connection with the player's score or ranking in the various tournaments. Other advantages and features of the present

30   invention will be apparent from the drawings and detailed description as set forth below.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a block diagram of a tournament system in accordance with the present invention;

FIG. 2 is a block diagram illustrating details of a FIG. 1 electronic game;

5   FIG. 3 is a block diagram illustrating details of the FIG. 1 local game server;

FIG. 4A is a perspective view of an embodiment of a local display assembly according to the present invention;

FIG. 4B is a perspective view of another embodiment of a local display assembly according to the present invention;

10   FIG. 4C is a perspective view of the local display assembly of FIG. 4B positioned behind and on top of a local game;

FIG. 5 illustrates details of the local display of FIG. 1; and

FIG. 6 illustrates a method of providing an electronic tournament in accordance with the present invention.

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DETAILED DESCRIPTION OF THE DRAWINGS

FIG. 1 is a block diagram of a computer network system 100 in accordance with the present invention. The network system 100 includes a plurality of client computers 110, including a client computer A, a client computer B, and other client

5   computers C, each coupled via a computer network 120, such as the Internet, to a www server 130 and to a host server 150. In addition, local server computers 140, including a local server A, a local server B, and other local servers C, are also coupled to the host server 150 via the network 120. The local servers 140 are connected to associated local games 170 and send and receive information over the network 120

10   from the host server 150.

In this configuration, the host server 150 can receive game data from games played on local games 170 transmitted from the associated local servers 140 over the network 120. Each local server 140 is illustrated as being connected to a local display 160 and multiple local games 170. The local displays 160 display tournament

15   information, video and audio advertising, local high scores, updated ranking information, and the like. By performing the communications with the host server 150 and performing local ranking determinations, the local servers 140 relieve the system resources of the local games 170 from performing these functions, thus making local game system resources more available for running the associated game.

20   Additionally, the client computers 110 can access tournament information over the network 120 from the www server 130. In particular, users at the client computers 110 can access player ranking information, tournament rules, news, e-commerce merchandise, upcoming tournament information, and the like. Moreover, the www server 130 transmits e-mail updates to tournament players regarding, for

25   example, changes in player tournament ranking.

An accounting server 180 is also connected to the host server 150. The accounting server receives data from the host server relating to the number and frequency of tournament games played on each of the local games 170. Using this data, the accounting server generates game earnings reports for each of the local

30   games 170 by the serial numbers of the games as well as invoices and other financial reports.

FIG. 2 is a block diagram of a local game 170 including a Central Processing Unit (CPU) 210. An input device 220, a game display 230, a communication

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interface 240, a data storage device 250, and Random Access Memory (RAM) 260 are connected to the CPU 210 via a signal bus 270. The input device 220 may include a trackball, a joystick, physical buttons, or a combination of these. The game display 230 includes a cathode ray tube and audio speakers to respectively display the video

5   and audio components of the game as it is played. The communication interface 250 interconnects the CPU 210 and the local server 140. In one embodiment, the communication interface 250 includes a PC board that receives the game data packet information from the CPU 210 at the completion of a game and formats the game data packet information so that it is readable by the associated local server 140. The game

10   data packet may include the serial number of the local game 170, the date and time of the game played, the player's identification information, and player's score. A game application 280 is typically stored on the data storage device 250. The game application 280 controls the local video game and is loaded into the RAM 260 for execution.

15   Additional local games 170 may be coupled to the communication interface 250 via fiber optic cables to permit the additional local games to communicate with the local server 140 via the communication interface 205 rather than each local game having its own communication interface. According to one embodiment, the communication interface can collect game data from up to thirty two separate local

20   games and transmit the collected game data to the local server 140. In this embodiment, the local game 170 that includes the communication interface 250 is configured as a master to the other local games 170, which are configured as slaves.

FIG. 3 is a block diagram of a local server 140. As shown, the local server 140 includes a CPU 310, a data storage device 320, a local game communication

25   interface 330, a camera 340, a local display interface 350, a network communication interface 360, and a Random Access Memory (RAM) 370. The data storage device 320, local game communication interface 330, camera 340, local display interface 350, network communication interface 360, and the RAM 370 are coupled to each other and to the CPU 310 via a data bus 380. In addition, a ranking application 385

30   and a local display driver 390 are typically stored in the data storage device 320 and are loaded into RAM 370 for execution.

The local game communication interface 330 connects the local server 140 to the various local games 170. In one embodiment, as many as thirty two local games

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170 are simultaneously coupled to the local server 140 via the local game communication interface 330. The various local games 170 connected to the local game need not comprise the same type of game. Indeed, the local games may be of various types, including, for example, car racing games and golf games. The various

5   local games 170 transmit game data packets to the local computer 140 via the local game communication interface 330.

At the completion of each game at a local game 170, the local game 170 transmits a game data packet to the associated local server 140. As mentioned above, the game data packet advantageously includes information such as: player

10   identification information, player score information, the time and date of the game, the locale of the game, the electronic game serial number, the type of game played, and the like. The player identification information may further include the player's name or initials, the player's password, an image of the player and the like.

In one embodiment, upon receipt of the game data packet, the ranking

15   application 385 of the local game server 140 determines whether the player's score qualifies the player to be ranked in international, national, regional, local or other rankings. If the player's score qualifies the player to be ranked in the local rankings, the local server ranks the player and transmits the player score and player identification information to the associated local display 160 for display thereon.

20   Then, if the player's score so qualifies, information from the game data packet or the entire game data packet is transmitted over the network 120 (FIG. 1) to the host server 150 in the next of the periodic transmittals. In another embodiment, all game data packets received by the local game server 140 are transmitted to the host server 150.

The game data packets, or information from the game data packets, are

25   periodically transmitted from the local servers 140 via the network communication interface 360 over the network 120 to the host server 150. Preferably, the local game server 130 transmits the game data packets, or information from the game data packets, to the host server 150 over the Internet via a local (toll-free) telephone call to a local ISP (Internet Service Provider). The network communication interface 360

30   may include a modem and advantageously transmits updated information over the network 120 to the host server 150 on a periodic basis, such as every fifteen to thirty minutes.

In response to receiving the updated game data from the local servers 140, the host server 150 updates the international, national, regional, and local tournament rankings. Once the host server 150 has updated the various tournament rankings, the host server 150 transmits the updated ranking information to the various local servers 140 and to the www server 130. In addition, the host server 150 transmits push content, such as video and audio data, to the various local servers 140. This push content may include advertising, sponsor, or other promotional information.

Each local server 140 then receives the updated ranking information, together with any push information, from the host server 150 via the network communication interface 360. Upon receiving this ranking and push information, the local display driver 390 displays this information, which may comprise video data, audio data, or both, on the associated local display 160 via the local display interface 350 using the local display driver module 390. In this manner, updated ranking information, together with video and audio data may be displayed by the various local displays 160.

In addition to presenting the updated ranking information on the local displays, the system also displays the updated ranking information on a web page residing on the www server 130. As such, tournament participants, and others, may access periodically updated tournament information by using a browser on a client computer 110 to open the web page. Moreover, those who wish to converse regarding the tournament may do so via remote client computers 110 via a "chat room" provided by the www server 130.

Further, players may wish to receive tournament updates via e-mail. As such, the www server transmits updated tournament information to certain tournament participants whenever their position, or ranking, in one of the tournaments changes. In particular, the host server 150 identifies which tournament participants have changed rankings with each update. Then, the www server transmits, via e-mail, to these identified participants updated tournament information.

FIG. 4A illustrates a local display assembly 400 according to the present invention. As shown, the local display assembly 400 includes a base 402, vertical supports 404, a platform 406, a video display 408, and audio speakers 410. A video game housing 412 is shown in phantom to illustrate the manner in which the local display assembly 400 may be positioned about a video game housing 412.

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A local server housing 416 is shown as being mounted on the vertical supports 404 and adjacent to the base 402. The local server housing 416 is a container, which houses the local server 140 (FIG. 1). Mounting the local server housing 416 in close proximity to the video display 408, the audio speakers 410, and the game housing 412

5   facilitates communication between the local server 140 and these components.

In particular, the base 402 is shown as including two horizontally oriented members 420 connected by a transverse member 422 disposed therebetween. The vertical supports 404 are mounted on the base 402 at the transverse member 422 by brackets 424. As such, the vertical supports 404 are maintained in a substantially

10   perpendicular orientation relative to the base 402.

The video display 408, which may comprise a VGA monitor, is generally maintained in an elevated position by the vertical supports 404. Specifically, the platform 406 is securely fixed to the vertical supports 404 in a cantilever fashion. In this configuration, the platform 406 supports the video display 408, the video display

15   408 being securely mounted on the platform 406. The audio speakers 410 are shown as being mounted to the video display 408 and are, thus, also supported by the platform 406. As shown, despite the weight and elevated position of the video display 408 and the audio speakers 410, the assembly 400 is well balanced with the display 408 and the speakers 410 cantilevered over the base 402.

20   As mentioned above, the assembly 400 is adapted to permit the video game housing 412 to fit between the base 402 and the video display 408. Indeed, the horizontal members 420 of the base 402 are configured to rest securely on a floor surface with a game housing 412 resting thereon.

FIGS. 4B and 4C show an alternate embodiment of a local display assembly

25   according to the present invention. In particular, FIGS. 4B and 4C show a local display assembly 450, which includes, in series, a base apparatus 452, a local server housing 454, and vertical supports 456. The local server housing 454 houses a local server computer 140. A video display 458, such as a VGA video display monitor is mounted, in cantilever fashion, on the top of the vertical supports 456. Preferably, the

30   video display 458 further comprises audio speakers 460 to output an audio component of the video game.

FIG. 4C illustrates the local display assembly 450 positioned behind a video game housing 462. As shown, the video game housing 462 is disposed in the region

464 (FIG. 4B. In this configuration, the video display 458 is positioned above the video game housing 462 to permit players to view ranking or other tournament information as well as push content, such as advertising on the video display 458.

Those skilled in the art will appreciate that the local display 160 could also be mounted on the wall or ceiling of the locale in which the local games 170 are located. In one embodiment, the local display 160 comprises a 27-inch monitor connected to a local server 140 and is mounted on the wall or the ceiling of the local in which the associated local games 170 are located by a conventional Cathode Ray Tube (CRT) wall or ceiling mounting unit. One example of a conventional CRT wall or ceiling mounting unit is disclosed in U.S. Patent No. 5,139,223, which is incorporated herein by this reference. Audio speakers may be mounted on the CRT to provide additional amplification of the audio component of the display.

FIG. 5 illustrates one embodiment of the output of the video display 408. As shown, the results of both a local tournament 502 and a national tournament 504 are displayed on the display 408. For each displayed ranking, the player's place or ranking 510, the player's photograph 512, the player's name or initials 514, the player's score or time 516, and the player's locale 518 are shown. Advertisements 520 may also be displayed.

In addition, and as discussed above, push content, such as video and/or audio advertisements or other promotional material may also be displayed on the video display 408 and the associated audio speakers.

FIG. 6 is a flowchart 600 that illustrates a method for providing an electronic tournament in accordance with the present invention. Initially, a tournament participant plays a tournament game on one of the local electronic games 170 pursuant to block 602. At the conclusion of the game, the local electronic game 170 transmits, via the communication interface 240 (FIG. 2), a game data packet to the associated local server 140 pursuant to block 604. The associated local server 140 receives the game data packet via the local game communication interface 330 (FIG. 3).

Periodically, the local server 140 transmits the game data packets received, via the network communication interface 360, over the network 150 to the host server 150 pursuant to block 606. Upon receipt of the game data packets from the various local

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servers 140, the host server 150 updates the current rankings in the various ongoing tournaments pursuant to block 608.

Once the host server 150 has updated the rankings in the various tournaments, the host server 150 transmits the updated ranking information to the www server 130 so that individuals at client computers 110 can open web pages residing on the www server 130 to view updated tournament information pursuant to block 610.

Next, pursuant to block 612, the host server 150 transmits the updated ranking information to the various local servers 140. In addition, the host server transmits push information, such as video and audio data, to the various local servers 140 pursuant to block 614.

The local servers 140, upon receipt of the updated ranking information and the push information, display the same on the associated local displays 160 pursuant to block 616. In particular, the local servers 130 receive the updated ranking information and the push information via the network communication interface 360. Once the updated ranking and push information are received, the local display driver 390 causes the information to be displayed on the local displays 160 via the associated local display interface 350.

Lastly, the www server 130, pursuant to block 618, transmits an e-mail message to each player whose ranking has changed in any of the ongoing tournaments due to the most recent update.

The invention has been described above with reference to a specific embodiment. It will, however, be evident that various modifications and changes may be made thereto without departing from the broader spirit and scope of the invention as set forth in the appended claims. The foregoing description and drawings are, accordingly, to be regarded in an illustrative rather than a restrictive sense.

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What is claimed is:

1 1. A tournament network system for conducting a tournament over a network,
2 comprising:
3   a host computer coupled to the network for managing the tournament;
4   a plurality of local computers coupled to the network for communicating with the host
5 computer;
6   a set of electronic games coupled to each local computer, each game configured to
7 transmit game information to the associated local computer after each tournament game;
8   each local computer being configured to transmit at least a portion of the game
9 information to the host computer over the network so that the host computer can use the
10 transmitted portion of the game information in managing the tournament.

1 2. The tournament network system for conducting a tournament over a network
2 according to claim 1, wherein the game information further comprises a data packet that
3 includes player identification information, player score information, and information
4 identifying on which of the electronic games the tournament game was played.

1 3. The tournament network system for conducting a tournament over a network
2 according to claim 1, wherein each local computer communicates with the host computer via
3 a local ISP connection.

1 4. The tournament network system for conducting a tournament over a network
2 according to claim 1, further comprising:
3   a display coupled to at least one of the local computers;
4   the host computer being configured to transmit tournament information to the local
5 computer associated with the display; and
6   the local computer associated with the display configured to transmit at least a portion
7 of the transmitted tournament information to the display so that tournament information may
8 be displayed on the display.

1   5.   The tournament network system for conducting a tournament over a network   -

2   according to claim 1 wherein the host computer is configured to receive game information

3   from the local game computers, to rank player scores, and to transmit ranking information to

4   the local game computers for display by the electronic games or by a display coupled to one

5   of the local game computer.

1   6.   The tournament network system for conducting a tournament over a network

2   according to claim 1, further comprising:

3   a display coupled to each of the local game computers;

4   the host computer being configured to transmit push content to the local game

5   computer for display by the associated displays.

1   7.   The tournament network system for conducting a tournament over a network

2   according to claim 1, wherein the host computer further comprises an HTTP server for

3   maintaining web pages comprising tournament information so that tournament information

4   may be accessed over the network via the host computer.

1   8.   The tournament network system for conducting a tournament over a network

2   according to claim 1 wherein the host computer is configured to transmit tournament

3   information via email to other computers coupled to the network.

1   9.   The tournament network system for conducting a tournament over a network

2   according to claim 1 wherein the game information includes player identification information

3   and player score information, the local computer being configured to determine whether

4   player scores qualify to be ranked in a local tournament comprising games played on the

5   electronic games coupled to a particular local game computer.

1   10.   The tournament network system for conducting a tournament over a network

2   according to claim 1, wherein the game information further comprises a data packet that

3   includes player score information and player identification information, the player

4   identification information comprising an image of the player and player identifying text.

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1   11.   The tournament network system for conducting a tournament over a network

2   according to claim 1 wherein the host computer maintains a chat room for permitting text-

3   based real time conferencing capability between multiple individuals.

1   12.   The tournament network system for conducting a tournament over a network

2   according to claim 1, further comprising:

3   a camera coupled to each local computer for capturing images of an area adjacent to

4   the camera, the camera being configured to transmit image information to the local computer;

5   the local computer being configured to receive the image information from the camera

6   and to transmit the image information to the host computer over the network.

1   13.   The tournament network system for conducting a tournament over a network

2   according to claim 1, further comprising:

3   a camera coupled to each local computer for capturing image of a player, the camera

4   being configured to transmit image information to the local computer;

5   the local computer being configured to receive the image information from the camera

6   and to transmit the image information in connection with other player information associated

7   with the player to the host computer over the network.

1   14.   A method for conducting an electronic tournament, comprising:

2   transmitting game data from a game computer to a local computer;

3   transmitting at least a portion of the game data over a network to a host computer;

4   updating tournament information based on the portion of the game data transmitted to

5   the host computer;

6   transmitting updated tournament information over the network to the local computer;

7   and

8   displaying the updated tournament information at a display coupled to the local

9   computer.

1   15.   The method for conducting an electronic tournament according to claim 14, further

2   comprising periodically transmitting information regarding the number of game plays on the

3   game computer.

1   16.   The method for conducting an electronic tournament according to claim 14, wherein

2   the game data further comprises player identification data and player score data.

1   17.   The method for conducting an electronic tournament according to claim 14, wherein

2   the game data further comprises at least a portion of a serial number associated with the game

3   computer.

1   18.   The method for conducting an electronic tournament according to claim 14, further

2   comprising transmitting e-mail messages containing ranking updates to provide players with

3   updated ranking information.

1   19.   A system for conducting an electronic tournament, comprising:

2   means for transmitting game data from a game computer to a local computer;

3   means for transmitting at least a portion of the game data over a network to a host

4   computer;

5   means for updating tournament information based on the portion of the game data

6   transmitted to the host computer;

7   means for transmitting updated tournament information over the network to the local

8   computer; and

9   means for displaying the updated tournament information at a display coupled to the

10 local computer.

16
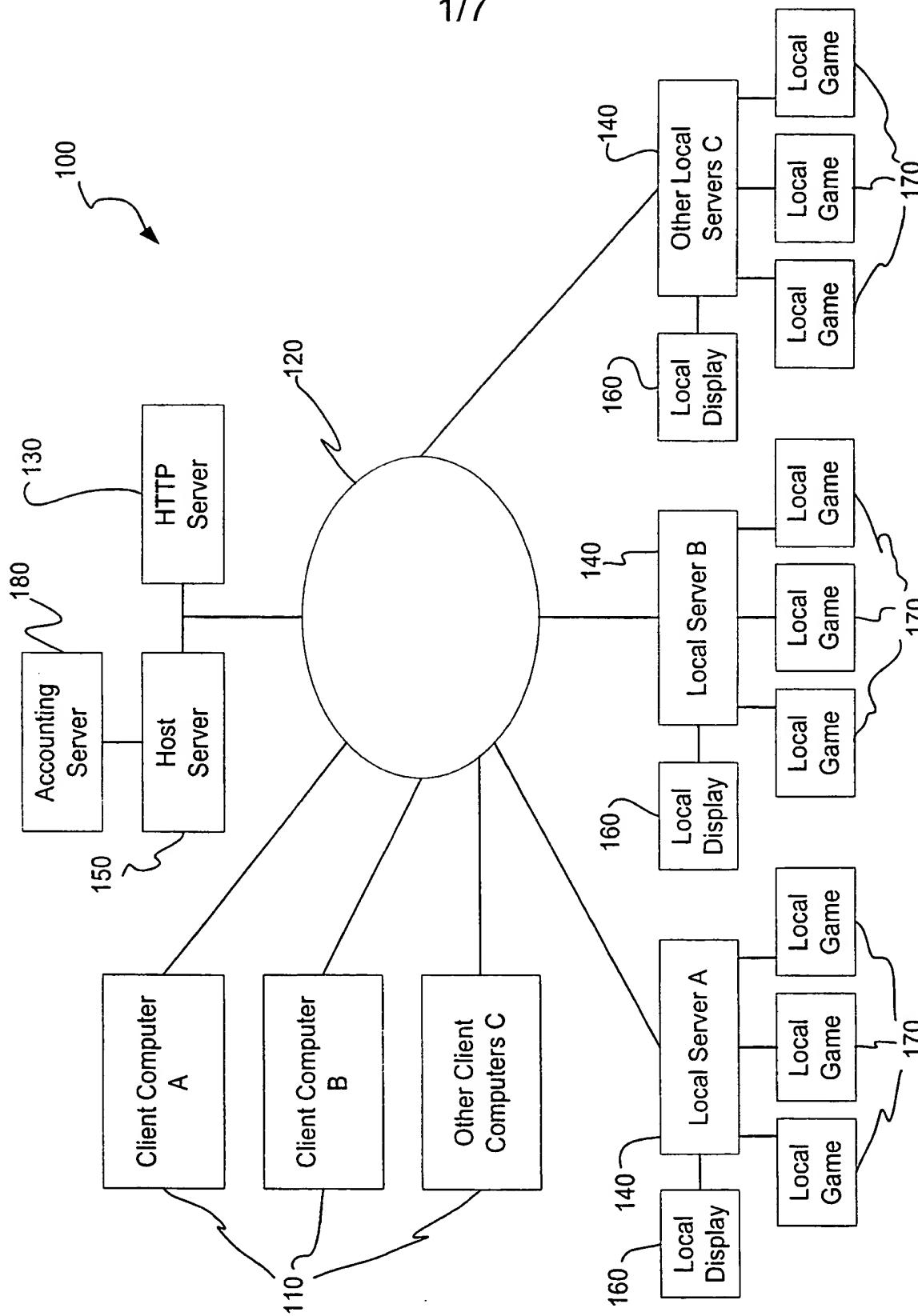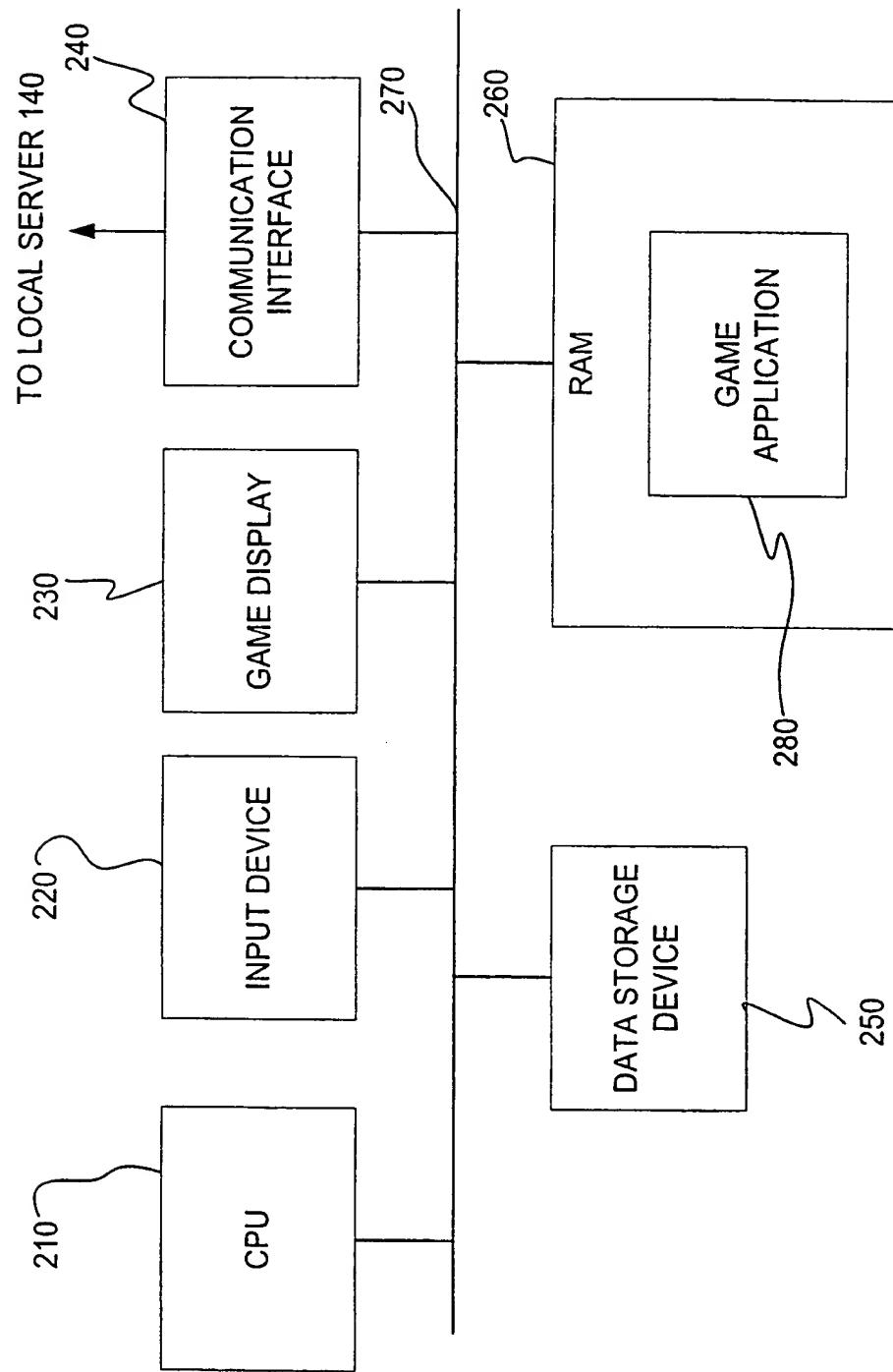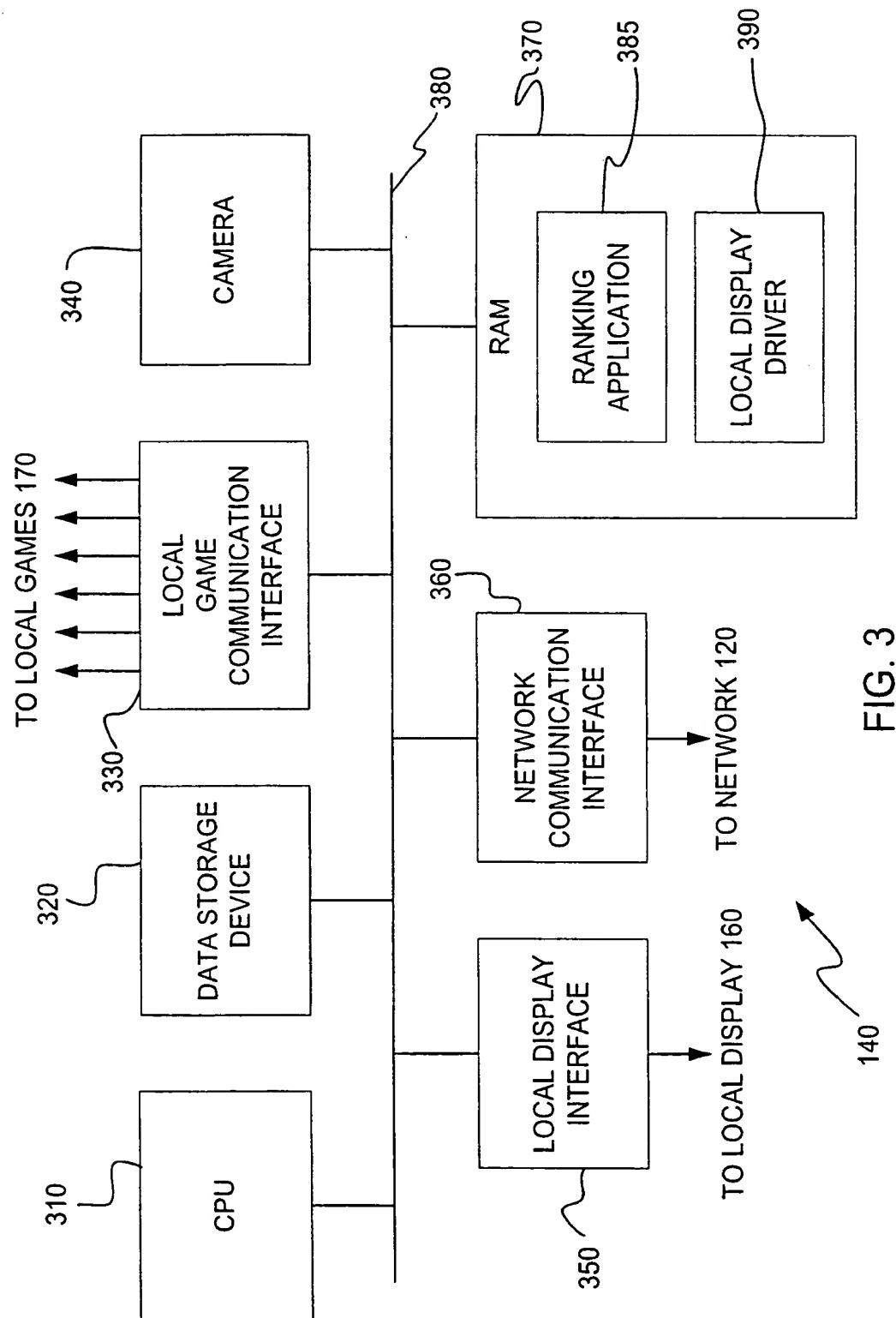
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FIG. 1

FIG. 2

FIG. 3

Fig.4A

Fig.4C

Fig.4B

408
520

502
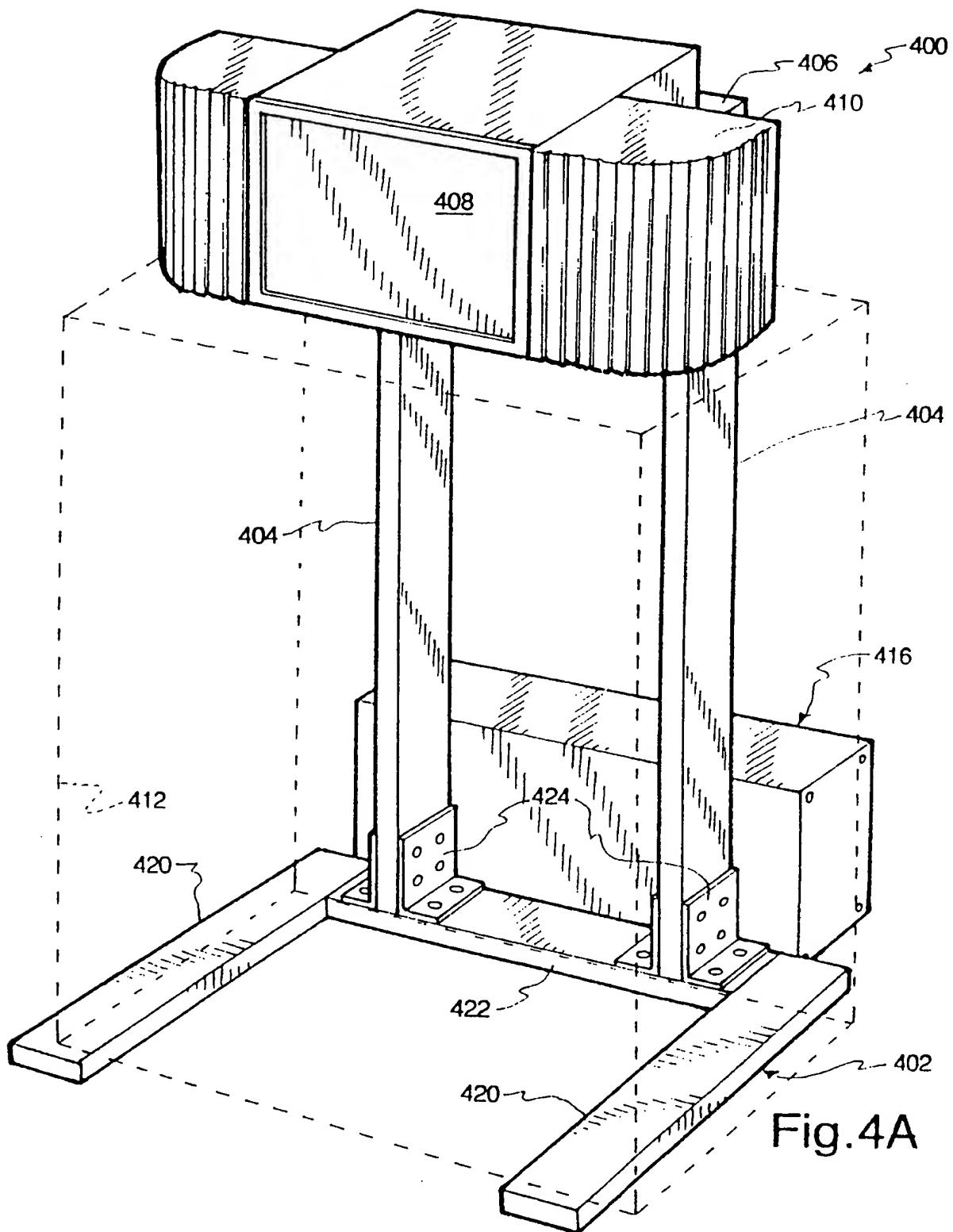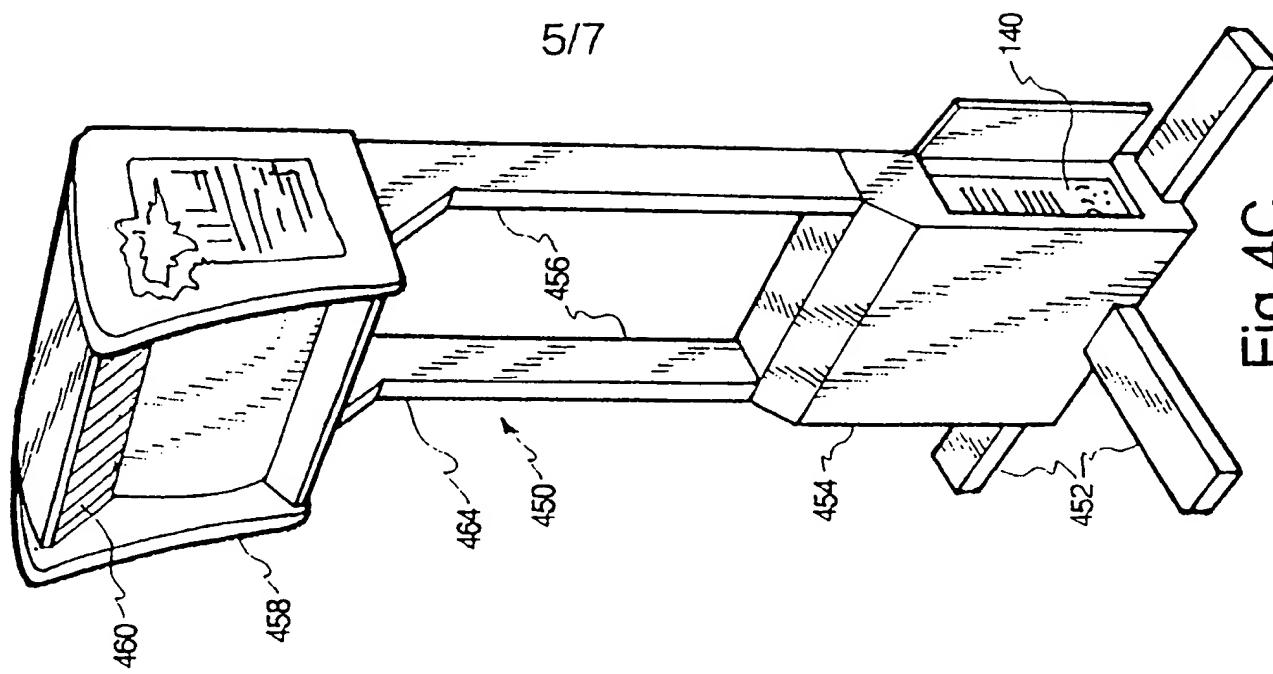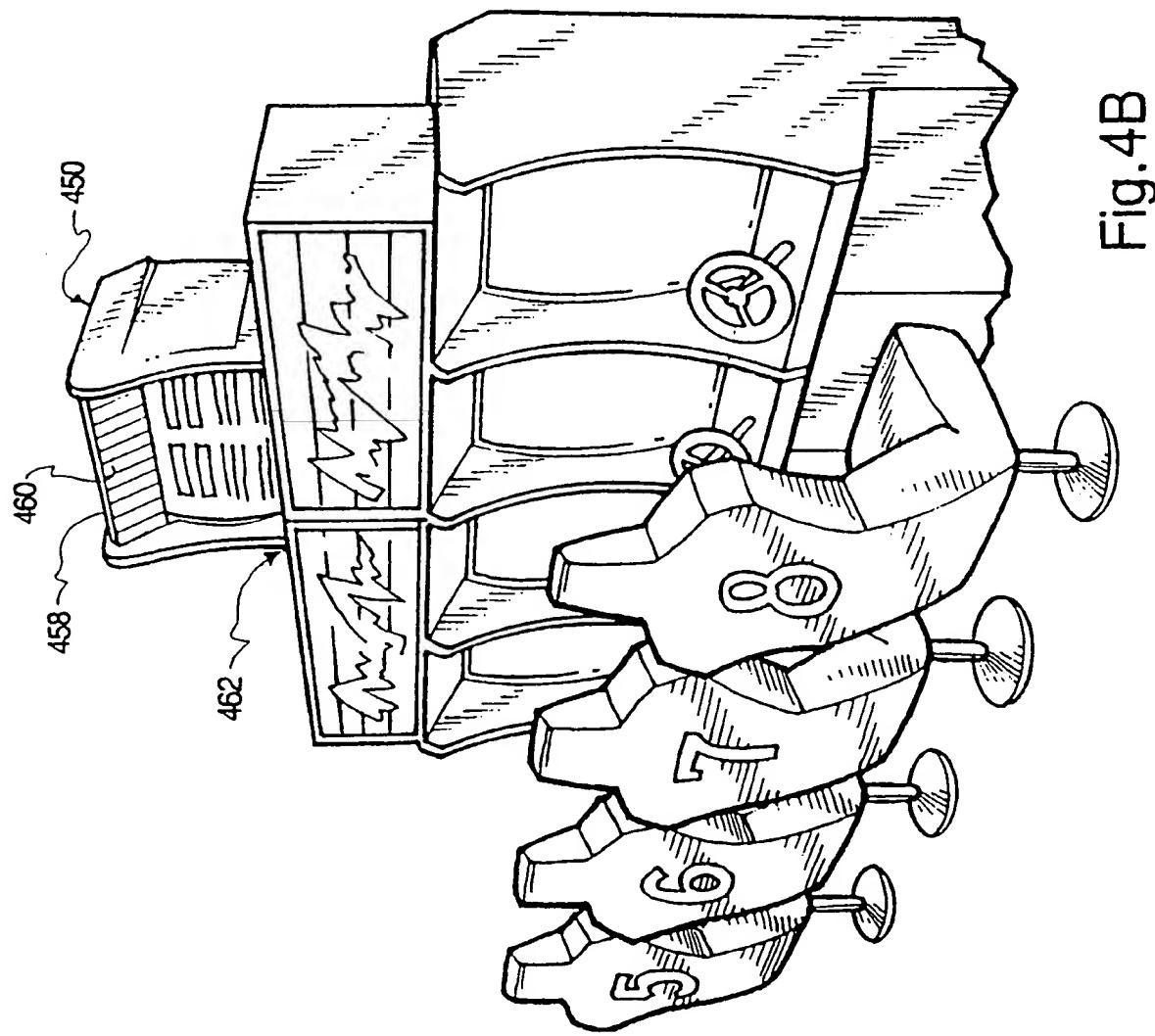
Fresno, California
Local Race Leaders

DAYTONA 2
USA 2

Place	Photo	Name	Time	City	Place	Photo	Name	Time	City
1		Dale	5:41	Fresno	6		Howell	7:07	Fresno
2		Sam	5:52	Fresno	7		Jessica	7:27	Fresno
3		Takeshi	6:21	Fresno	8		Jack	7:37	Fresno
4		Mike	6:42	Fresno	9		Yoshi	7:47	Fresno
5		Linda	6:57	Fresno	10		Ray	7:57	Fresno

510 512 514   518

504

1. Abraham Johnson 5:21   2. Rich Lambert 5:24   3. Sally Anne Smith   4. Wendy Wilkin

FIG. 5

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┌─────────────────────────────────────────────────┐
│     Player plays a game on a local electronic game │──~602
└─────────────────────────────────────────────────┘
                        ▽
┌─────────────────────────────────────────────────┐
│ Electronic game transmits game data pacet information to │~604
│        an associated local server                │
└─────────────────────────────────────────────────┘
                        ▽
┌─────────────────────────────────────────────────┐
│ Local server transmits the game data packet information to │~606
│              a national server                   │
└─────────────────────────────────────────────────┘
                        ▽
┌─────────────────────────────────────────────────┐
│ National server updates ranking information based on │~608
│       received game data packet information       │
└─────────────────────────────────────────────────┘
                        ▽
┌─────────────────────────────────────────────────┐
│ National server transmits updated ranking information to │~610
│    WWW server for distribution over the Internet  │
└─────────────────────────────────────────────────┘
                        ▽
┌─────────────────────────────────────────────────┐
│ National server transmits updated ranking information to │~612
│                 local servers                    │
└─────────────────────────────────────────────────┘
                        ▽
┌─────────────────────────────────────────────────┐
│ National server transmits push content to local servers │~614
└─────────────────────────────────────────────────┘
                        ▽
┌─────────────────────────────────────────────────┐
│ Local servers display updated ranking information and │~616
│         push content at local displays           │
└─────────────────────────────────────────────────┘
                        ▽
┌─────────────────────────────────────────────────┐
│ WWW server sends e-mail to tournament participants │~618
│  whose ranking changed in most recent update     │
└─────────────────────────────────────────────────┘
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FIG. 6

SUBSTITUTE SHEET (RULE 26)

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US99/27161

A. CLASSIFICATION OF SUBJECT MATTER
IPC(6) :A63F 9/22
US CL : 463/41, 42
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED
Minimum documentation searched (classification system followed by classification symbols)
U.S. : 463/41, 42

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
EAST
search terms: tournament, Internet, web, server

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X --- Y	US 5,083,271 A (THA CHER et al.) 21 January 1992, See Fig. 1 and abstract.	1-2, 4-6, 9, 14, 16 and 21 ------------ 3, 7-8, 10-13, 15, 17 and 20
Y	US 4,572,509 A (SITRICK) 25 February 1986, See abstract, col. 11, lines 1-56.	12-13
X --- Y	US 5,779,549 A (WALKER et al.) 14 July 1998, See Fig. 1, abstract, col. 14, lines 1-13.	1-6, 9-10, 14-16 and 21 ------------ 7-8, 11-13, 17 and 20

☐ Further documents are listed in the continuation of Box C.	☐ See patent family annex.

*	Special categories of cited documents:	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A"	document defining the general state of the art which is not considered to be of particular relevance		
"E"	earlier document published on or after the international filing date	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O"	document referring to an oral disclosure, use, exhibition or other means		
"P"	document published prior to the international filing date but later than the priority date claimed	"&"	document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
06 MARCH 2000	31 MAR 2000

Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231 Facsimile No. (703) 305-3230	Authorized officer CARMEN WHITE Telephone No. (703) 308-1078

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